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PIC/JR-1028/61

June 1961

JOINT PHOTOGRAPHIC INTELLIGENCE REPORT

UNUSUAL FACILITIES  
AT  
DOLON AIRFIELD, USSR



ARMY



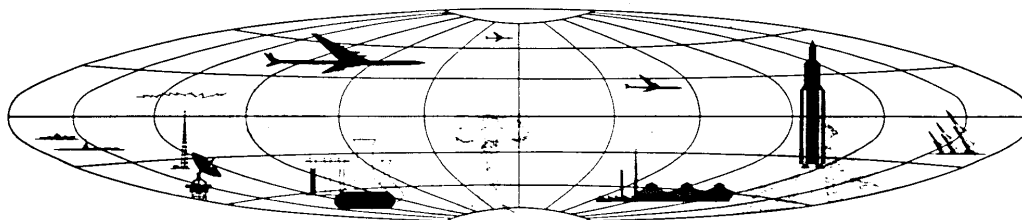
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## INTRODUCTION

Aerial photography of Dolon Airfield was first obtained in August 1957, but the scale and quality did not permit a detailed analysis of the airfield and its facilities. April 1960 photography revealed several unusual facilities under construction at the airfield. The fact that the construction was in an early stage hinders a full description and analysis, but sufficient details of configuration are visible to establish its uniqueness. This construction has been of considerable interest to the intelligence community since the acquisition of the April 1960 coverage.

This interest centers around a fenced area five nautical miles (nm) from the airfield containing two major buildings under construction (Area "A"); an unusually large fenced area enclosing a smaller fenced area containing preliminary construction activity (Area "B"); and a secured, drive-through hangar-type building, and an unusual hardstand area under construction near the airfield (Possible Checkout and Special Handling or Loading Facilities).

The Dolon Airfield complex, including the nearby town of Chagan (Figure 1), represents a large-scale effort, and appears in some respects significantly different from a typical Soviet long-range bomber base. This, and the unusual facilities, may indicate the operational installation of a new or different type of weapons system at the airfield. Its remote location and proximity to the Semipalatinsk nuclear weapons proving ground 1/ are further evidence of its importance and sensitivity.

This report presents a description of these facilities and the entire Dolon Airfield complex. A brief discussion of possible functions of the various installations is included. Where pertinent, a comparison of these facilities with other possibly related or similar installations is also included.

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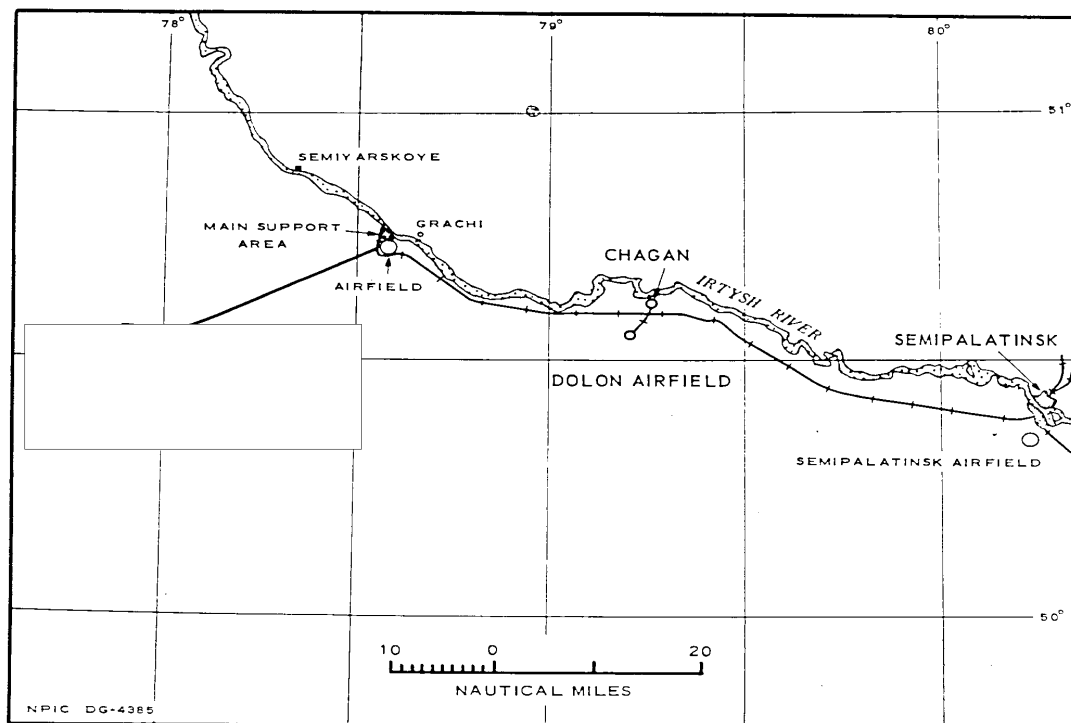


FIGURE 1. GENERAL LOCATION MAP.

## AREA "A"

Area "A", (see Figure 3) located five nm southwest of the airfield, contains what is probably the most significant of the facilities under construction at Dolon Airfield. Construction in this area was in its early stages in April 1960 so it is not possible to predict its final configuration and layout. Area "A" consists of a fenced area containing two major buildings under construction, and a group of support buildings immediately outside the fence. The area is rectangular in shape, covers 48.2 acres,

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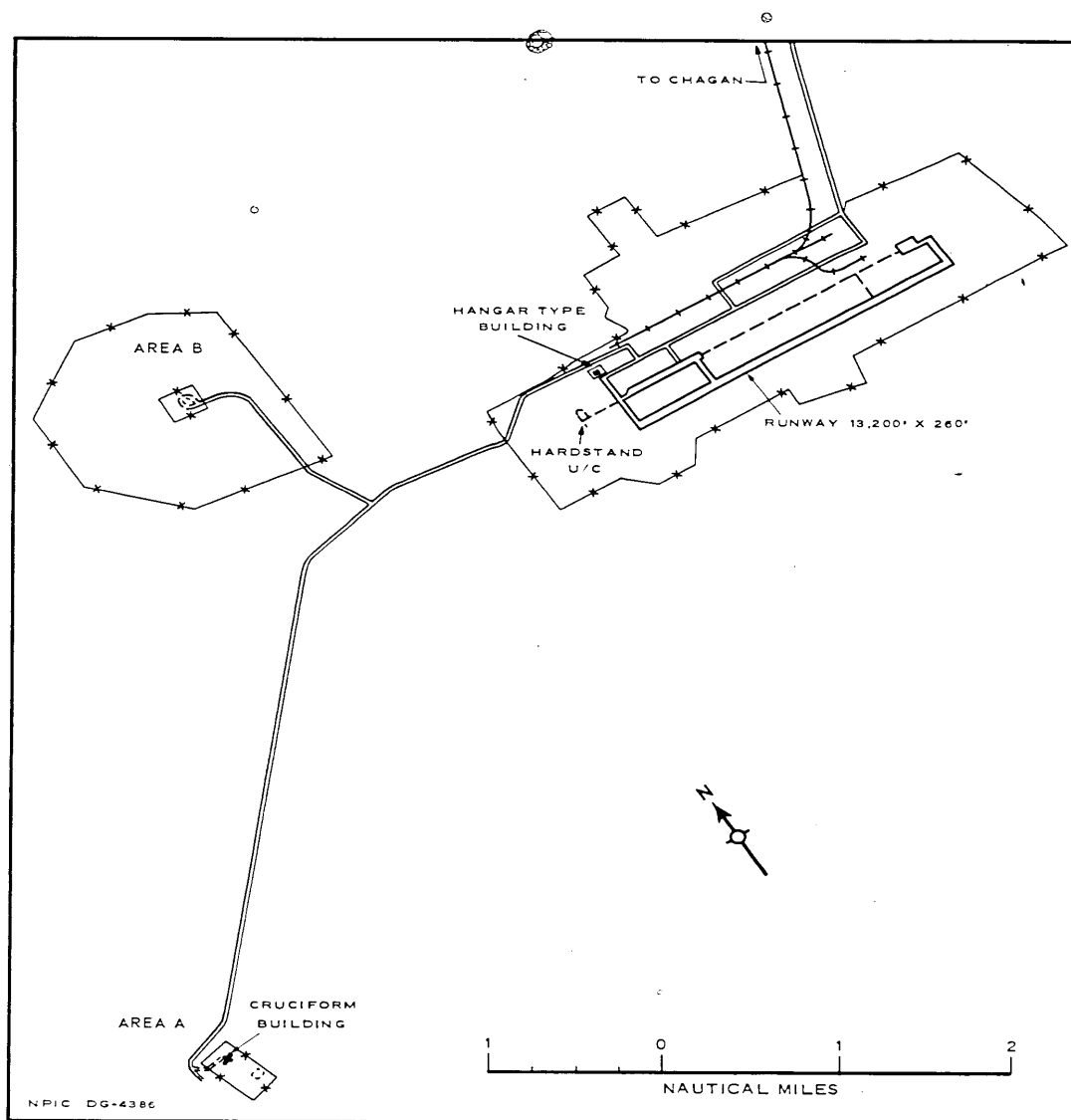


FIGURE 2. ORIENTATION SKETCH OF DOLON AIRFIELD AND FACILITIES.

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and is secured by a single wire fence. Two lines of postholes extend 3,300 feet to the south of the fenceline, probably indicating future expansion of the site to more than double its present size.

A 40-foot-wide hard-surface road, which also serves Area "B", connects Area "A" with the airfield (see Figure 2). This road terminates outside the fenced portion of Area "A" and a temporary road serves the construction under way inside. Numerous vehicle tracks parallel the road between the site and the airfield, probably indicating the movement of heavy construction equipment.

The northernmost structure within the fenced area is a heavily constructed concrete cruciform building (see Figures 3 and 4), which is located in a shallow excavation. The excavated spoil forms two long earthen ramps parallel to the north and south ends of the building. This appears to be cut-and-cover type of construction, with these ramps to provide backfill and possibly earth mounding when the basic structure is complete. Cuts and vehicle tracks through the center of the ramps possibly indicate the location of entrances to the structure when completed.

At present the building is about one story high. Its depth below ground cannot be determined. There is a large T-shaped opening on the top of the building along its southwest/northeast axis. It is possible that an additional structure will be built over this opening, although there are no indications of this at present.

An unusual feature of this building, of possible significance, is the fact that it is not aligned with the fence, as is normal Soviet construction practice. A comparison of this building with the storage bunkers found at operational nuclear weapons storage sites at Soviet long range airfields reveals no similarity.

The other major structure within the fenced area is a large probable shop-type building in an early stage of construction (see Figure 3). Only the walls or portions of them have been built, but this provides an indication of the internal layout of the building. Vehicle entrances on the north and south sides indicate a pass-through at the west end of the build-

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ing. The north, south, and east sides of the building are compartmented into shop-type rooms around a center bay. An overhead power line leads from this building to a small, partially buried building outside the fence.

A group of support buildings is located outside the fence at the terminus of the road connecting the facility to the airfield. The largest of these, a hip-roofed single-story building, is probably an administration building, but could also provide housing facilities. The southernmost of these support buildings appears to be of heavy concrete construction and has an unusual configuration. It is still under construction and has not been completely roofed, allowing a view of the internal layout. The building is divided into three sections with a smaller section at one end which is lower than the other two. Along the sides of each of the two main sections are covered cells or rooms flanking an open center bay.

#### AREA "B"

Area "B" is located two nm west of the airfield and is connected to the airfield by the road which also serves Area "A" (see Figure 2).

The outer fence encloses a heptagonal area covering 1,642 acres. There is a gatehouse at the road entrance to the site (see Figure 5). Several ground scars, probably buried cable or pipe trenches, generally parallel the road leading to the inner fence. North of the entrance, along the road to the inner fence, is a group of buildings, the largest of which has inwardly sloping walls, no roof, and appears to be divided into bays. A gable-roofed building abuts this structure to form a "T". A short mast or tower is nearby.

The inner fenced area, measuring 1,300 feet by 1,150 feet, is enclosed by triple wire fencing and has a gatehouse at the entrance. Within the fence the road loops up on top of a low mound. The northern portion of the road loop does not appear to be hard-surfaced.

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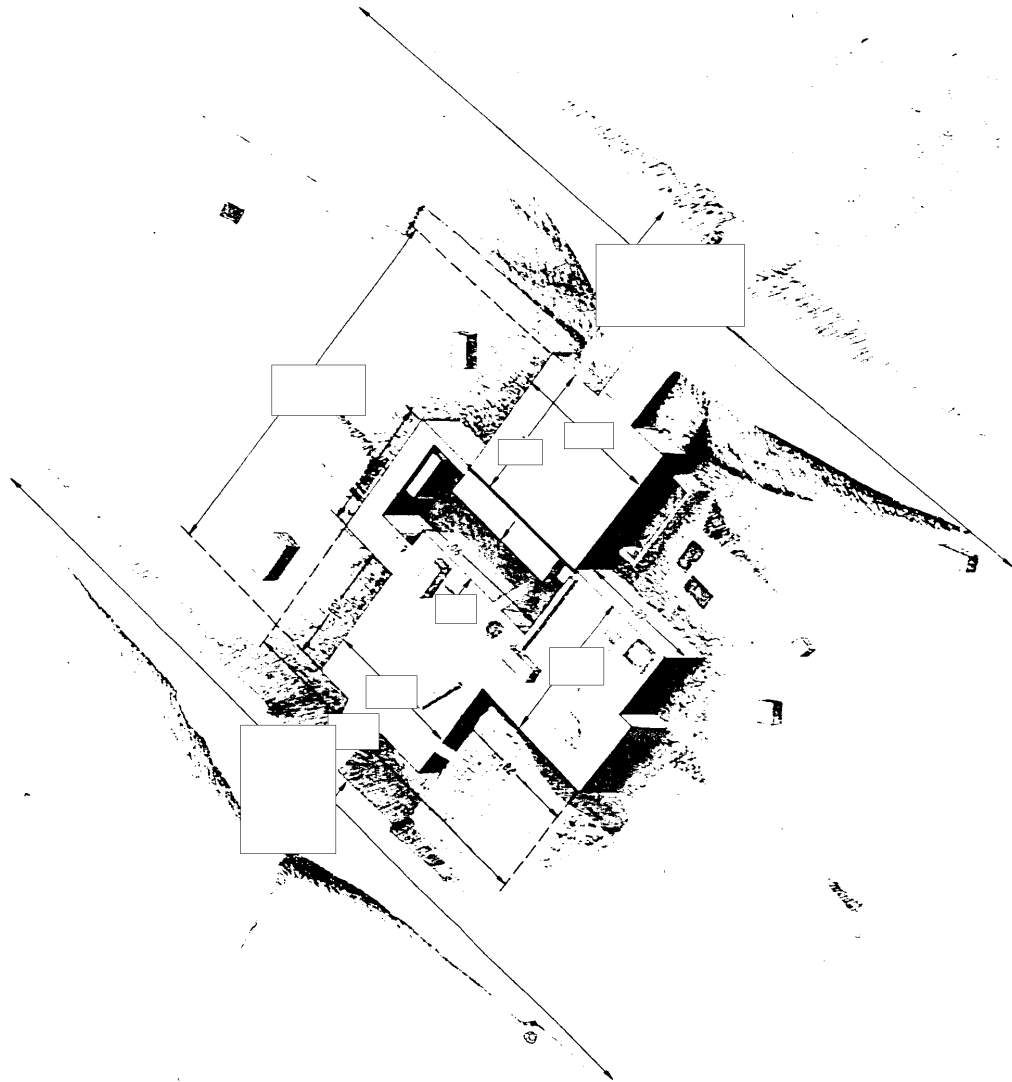


FIGURE 4. CRUCIFORM BUILDING, AREA "A".

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Two areas of construction are visible on top of the mound. The western area contains a shallow excavation, approximately 210 feet in diameter. Radial scars indicate activity by earth-moving equipment. Two rectangular objects, possibly construction shacks, measuring approximately [redacted] and 20 by 10 feet, are located in the center of the excavation. The eastern area contains a smaller excavation, approximately 50 feet in diameter, containing two small unidentified objects.

The purpose of so large a fenced area at Area "B" is difficult to determine. A possible explanation could be to keep personnel at a safe distance from a highly toxic material or hazardous operation within the inner fenced area. This does not seem logical, however, due to the prevailing wind pattern. Skid marks on the runway of the airfield indicate a predominantly west wind, which would place Area "B" upwind of the airfield.

Of possible significance in determining the function of Area "B" is the alignment of its connecting road. This indicates a traffic pattern between the airfield and Area "B" rather than between areas "A" and "B". This could, however, be merely a characteristic of the early phase of construction.

#### POSSIBLE CHECKOUT AND SPECIAL HANDLING OR LOADING FACILITIES

Two installations at the western end of the airfield may be checkout and special handling or loading facilities for an unidentified weapons system. Their location and road connections (see Figure 2) suggests a functional relationship with the facilities under construction at Areas "A" and "B".

The possible checkout facility consists of a hangar-type building within a fence. Road access to both ends of the building (see Figure 6) indi-

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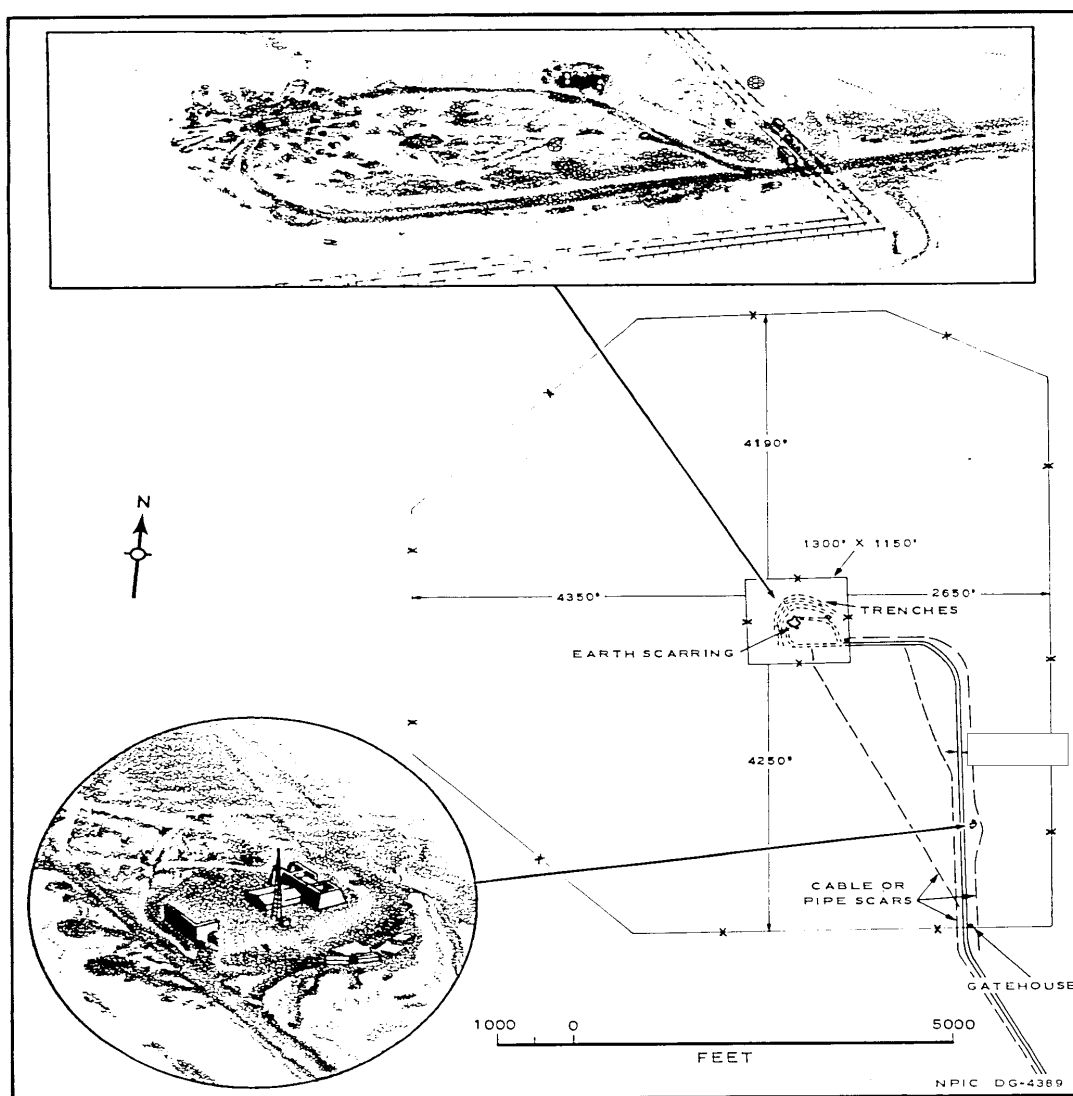


FIGURE 5. AREA "B".

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cates a drive-through capability and the height of the building [ ] may indicate overhead handling equipment. The road extending from the south end of the building leads into a taxiway that connects with the west ends of the parallel taxiway and the runway. At the time of photography in April 1960, 2 BEAR and 1 BADGER were parked on this taxiway. The roads serving this facility were snow covered, indicating perhaps infrequent usage. There is no construction currently in progress at this facility and it appears that it has been complete for some time.

Extending west from the western parking apron (see Figure 6) is a taxiway and hardstand area under construction which may represent special handling or loading facilities. In April 1960 these were in an early stage of construction -- preliminary grading had been done, but no concrete had been laid. A 65-foot-wide hardstand extends from the south side of the end of the taxiway and a loop road runs from the north side. This loop road is only 20 feet wide, too narrow for the landing gear of bomber aircraft, but it may be widened as construction continues. What appears to be a depression is located alongside the western portion of the loop. Although suggestive of a weapons loading pit, this depression probably results from the difference in elevation between the graded and ungraded areas during this phase of construction.

A comparison of this hardstand area with the loading hardstands at Soviet bomber bases associated with nuclear weapons storage areas reveals a number of significant differences, including size, configuration, number of hardstands, and absence of loading pits.

#### DOLON AIRFIELD

Dolon Airfield, with several exceptions, resembles a typical Soviet Long Range bomber base. In 1960 the airfield appeared essentially complete and operational, with the exception of the unusual facilities under construction. A detailed description of the airfield and its facilities is

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not possible from the 1957 photography, but it appeared at that time that the runway was complete and construction was under way on the various support facilities.

The airfield has a single concrete-surface east/west runway, 13,200 by 260 feet. The predominant landing pattern, as evidenced by skid marks, is from the east. Parking aprons with connecting crossovers to the runway are located at both ends of the field. A parallel taxiway was under construction in April 1960.

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The airfield is equipped with an instrument landing system, night landing aids, and other instrument and communications facilities. A bombing marker with numerous craters indicating recent usage is located approximately 7,000 feet south of the runway. A double wire security fence surrounds the airfield and a checkpoint is located at the main road entrance. Aircraft present on the field in April 1960 included 14 BEAR, 8 BADGER, 2 BULL, and 1 CAB.

Noticeably absent at the field are storage facilities for nuclear or conventional bombs such as are found at other Soviet long-range bomber bases. This raises the possibility that the new facilities under construction represent a new or different type of weapons system becoming operational at the field.

Housing, administration, and general support facilities at the airfield are fairly extensive, and when considered in combination with those at Chagan, indicate a large scale operation. Facilities at the airfield itself include: housing, both multistory apartments and barracks-type; administration buildings; storage or warehouse buildings and areas; heat and power plant; motor pools and vehicle maintenance facilities; two POL storage areas; and a concrete storage and batching plant.

A rail spur from the line running between Semipalatinsk and the main support base [ ] serves the airfield. The specific facilities at the airfield served by this rail spur are: both POL storage areas; the concrete storage and batch plant; the steam and power plant; and a transloading area near the west end of the airfield. There is a network of hard-surface roads serving the various portions of the airfield complex, and a road, paralleling the rail spur, connects the airfield with the town of Chagan.

## CHAGAN

The town of Chagan, located five nm north of Dolon Airfield, appears on the August 1957 and April 1960 photography, both of good quality and

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affording a detailed study of the expansion of the town and its facilities between those two dates. It appears directly related to the airfield and probably serves as a support base for the airfield. Factors supporting this conclusion are: the lack of industry in or near the town as a justification of its existence; the high quality of the housing facilities in comparison with other towns in the general area; its proximity to and direct connection by road and rail to the airfield; a timetable of construction concurrent with Dolon Airfield; the location of a SAM site and SAM support facility at the town; and the fact that the town does not appear on published Soviet maps in the Oblast series.

The town is located between the Irtysh River and the rail line from Semipalatinsk to the main support base [redacted] (see Figure 1). A spur track from this line serves a number of the facilities in the western portion of the town. A direct hard-surface road connects the town with Dolon Airfield and heavy traffic between the two is indicated by immediate plowing of a recent snowfall.

The following is a listing of the facilities at Chagan taken from the 1960 photography. In the description of each item is a statement of its relative state of construction at the time of the 1957 photography. Item numbers are keyed to Figure 7.

1. Housing

Twenty six multi-story apartment buildings plus four additional buildings under construction are centered around a large four-story administration or community building. The large administration or community building existed in 1957 and eleven of the apartment buildings were in various stages of construction.

Seventy-six single family dwellings. The same number of buildings were complete in 1957.

Eight single-story apartment buildings. The same buildings were complete in 1957.

Seven barracks-type buildings. These were not present in 1957.

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Labor camp with 11 large barracks, 14 smaller barracks, two messhalls, and several support buildings. Nine of the large barracks, all 14 of the smaller barracks, one of the messhalls, and the several support buildings were present in 1957.

2. Warehouse and Storage Area

Ten warehouses and various materials in open storage. No change from 1957.

3. Heat and Power Plant

This plant, somewhat larger than the one at Dolon Airfield, has an associated water tower and cooling tower. In 1957 this facility was under construction.

4. Small Boilerhouse - Probable Heating Plant

This building was not present in 1957 and construction had not been started.

5. Probable Water Treatment Plant

This plant consists of a fenced area containing one large building, 2 large underground tanks, 2 aboveground tanks, and 5 smaller buildings. Pipe scars and a trench connect the fenced area with a pumphouse on the river. This facility was under construction in 1957.

6. Probable Concrete Mixing Plant

This plant, a fairly large one, was complete and operational in 1957.

7. Warehouse and Storage Area

Consists of two rail-served warehouses, 4 other storage buildings, and various materials in open storage. These facilities have been doubled since 1957.

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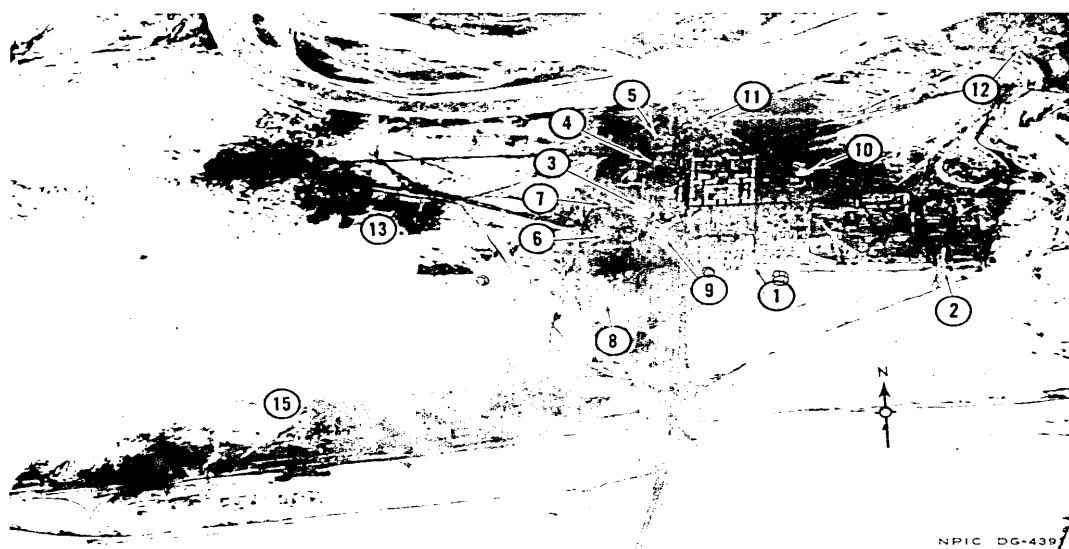


FIGURE 7. CHAGAN.

#### 8. Wood Products Plant

This plant contains, within a fenced area, one large building, 5 smaller buildings, and extensive open storage for lumber. The plant is rail served, and was present in 1957.

#### 9. POL Storage Area

This rail-served area contains 2 large underground tanks and one small building. It was not present in 1957.

#### 10. Laboratory and/or Shop Area

This area contains a variety of buildings and has the appearance of a laboratory or shop area. It has undergone considerable expansion since 1957. Buildings in this area are:

3 laboratory or administration-type buildings (1 present in 1957)

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- 1 shop-type building with a stack (present in 1957)
- 2 shop-type buildings within a fenced area (not present in 1957)
- 3 miscellaneous shop-type buildings (2 present in 1957)
- 1 large masonry water tower (present in 1957)

11. Large Multistory Administration-Type Building U/C

This building was under construction in 1960.

12. Borrow Pit for Sand and Gravel

Located northeast of the town along the river, this pit was present and active in 1957.

13. SAM Support Area

This facility was in mid stage of construction in 1960. 2/

14. SAM Site

A SAM site in an early stage of construction in 1960 is located 2 nm east of Chagan. 3/

15. Rail Yard and Maintenance Facilities

One nm southwest of Chagan is a group of facilities supporting rail traffic along the line serving Dolon Airfield, Chagan, and the main support base for the nuclear weapons proving grounds. These facilities consist of: an engine repair shop, a coaling yard, a turning "Y", water tower, a 3 track rail yard, and a small village and station area. All were present in 1957.

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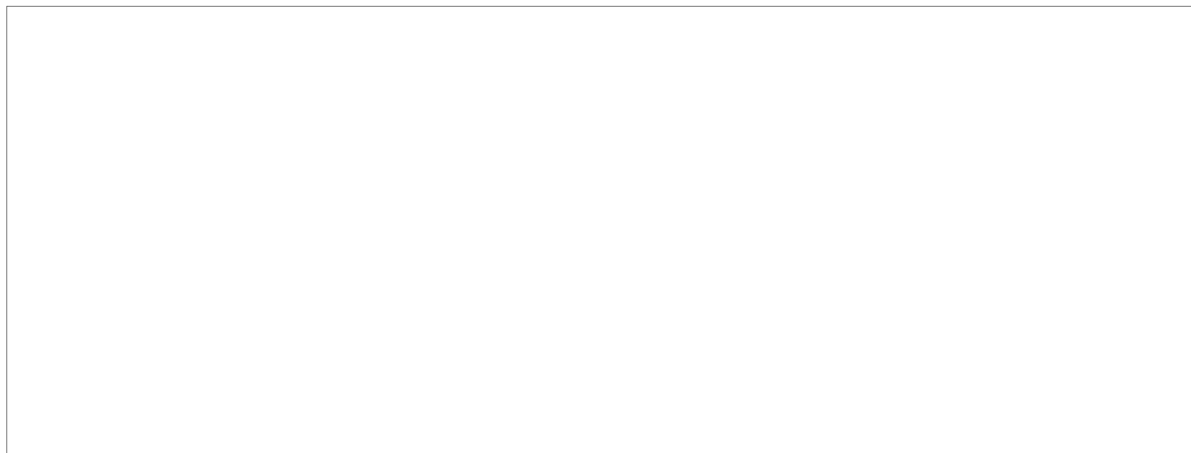
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